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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/710,659

07/27/2004

Chung-Chieh Chang,

10318-US-PA

4658

31561

7590

02/28/2005

JIANQ CHYUN INTELLECTUAL PROPERTY OFFICE

7 FLOOR-1, NO. 100

ROOSEVELT ROAD, SECTION 2

TAIPEI, 100

TAIWAN

EXAMINER

KITOV, ZEEV

ART UNIT

PAPER NUMBER

2836

DATE MAILED: 02/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/710,659	Applicant(s) CHANG ET AL.	
	Examiner Zeev Kitov	Art Unit 2836	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 July 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 - 4 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 - 4 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 July 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Objection

1. Claims 1, 3 and 4 are objected to due to plural typing errors. They contain words without spaces between adjacent words. Correction is required. All instances of "isturned" in Claim 1 should be changed to "is turned". Claim 3 "predeterminedtime" should be changed to "predetermined time". Timer relay "remain" should be changed to "remains".
2. Claim 1 is further objected to due to a following phrase: "said first parallel circuit and said second parallel circuit are connected in serial (emphasis added)". The underlined part should be retyped as: "in series".
3. Specification is objected to due to following error. "A time T6" (page 2, last line) is not shown in Fig. 2.

Drawings

1. Fig. 2 of Drawings is objected to since an upper trace in Fig. 2 is drawn such that it is hard to understand. The trace is supposed to indicate frequency converter output and the frequency converter output after improvement. However, only one curve is shown.
2. Fig. 2 of Drawings is further objected to since the time T6 (Specification paragraph [0008] is not shown.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

Claim 1 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. A reason for that is following phrase in the claim: "the switch circuit, for determining whether or not to turn on/off said switch circuit". The phrase explains nothing regarding

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functioning of the circuit; it comes out that the switch circuit only serves itself and the role of the switch circuit in the system is not clear. The Specification does not disclose either configuration or functioning of the switch circuit with respect to other elements, it just repeats the claim. Since neither configuration, nor function of the circuit with respect to other elements of the system is disclosed, one of ordinary skill in the art would not be able to reproduce the switch circuit. For purpose of examination, the patentable weight is not given to the "switch circuit", and eventually to the "first parallel circuit".

Claim 1 is further rejected due to following "said starter relay and timer relay are connected in parallel". It means that both relays form an OR logic connection. In other words, whenever timer is activated, the other starter relay is activated too. However, the starter relay controls the frequency converter and the other controls the timer switch. Such connection makes the timer switch unnecessary, because when the timer is activated, the frequency converter will start immediately without any delay. For purpose of examination the patentable weight was not given to the recited above statement.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. A reason for that is as follows. Claim 1 in the preamble states its goal to control to present a control circuit. The first element listed as part of the control circuit is the starter circuit for determining whether to turn on the control circuit. If

its purpose is to turn on or off the control circuit, this function is external to the control circuit and should not be listed as a part of the control circuit.

The switch circuit of the claim turns itself on and off. Typically a control circuit would control a switch while a switch circuit would merely perform switching function. Decisions are typically beyond the capability of a switch. For purpose of examination the patentable weight was not given to the underlined part of the phrase “a switch circuit for determining whether or not to turn on/off said switch circuit”.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant Admitted Prior Art (AAPA) in view of Matsko et al. (US 4,331,996). Regarding Claims 1 and 3, The AAPA discloses a starter circuit (element 23 in Fig. 1) determining whether or not to turn on/off the control circuit; a starter relay (element 13 in Fig. 1) turning on the frequency converter, wherein when a voltage level of a power supply to the control circuit is below a first predetermined voltage level, the starter relay is turned off (Specification paragraphs [0006 – 0008]). It further discloses the starter relay as being the switch activating and deactivating the frequency converter (Specification paragraphs [0006 – 0008]). However, it does not disclose activation of the

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starter relay in a power-up process. Matsko et al. disclose the circuit wherein when the voltage level of the power supply to the control circuit is raised to above a second predetermined voltage level defined by the zener diode (element ZD5 in Fig. 1) voltage and the voltage divider R10, R13 and R6 (the resistor R7 is shorted by saturated output of comparator CO3) (see col. 6, lines 18 – 47), the starter relay (element UVRC in Fig. 1) is turned on. Both references have the same problem solving area, namely providing protection to the electrical equipment against undervoltages. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the AAPA solution by introducing the second voltage level and making an activation (or reactivation) of the starter relay conditioned on reaching the second voltage level different from the first voltage level, because as Matsko et al. state (col. 28 – 29), this hysteresis loop effect prevents chattering. It is to be noted that the same described above process takes place not only at the time of low voltage drop interruption, but at the start up period too.

It further discloses a timer relay (elements R1 – R3, C1 – C3, CO1 – CO3 in Fig. 1), wherein when the voltage level of the power supply to the control circuit is below the first predetermined voltage level defined by the zener diode (element ZD5 in Fig. 1) voltage and the voltage divider R10, R13, R6 and R7 (the R7 is not is shorted by the floating output of comparator CO3) (see col. 6, lines 18 – 47), the starter relay (element UVRC in Fig. 1) remains on for a predetermined time period defined by the delay circuit (elements C1 – C3, R1 – R3 in Fig. 1). The timer relay determines whether or not to turn on/off the timer switch (element UVRC in Fig. 1). As to parallel connection of the starter

relay and the timer relay, in the AAPA system modified according to Matsko et al, the timer relay being supplied by the power at the same time as the starter relay satisfies the Claim limitation of parallel connection with respect to the power supply.

Regarding Claim 4, Matsko et al. disclose the system wherein when the voltage level of the power supply to the control circuit do not rise to above the second predetermined voltage level during the predetermined period, the timer relay is turned off. Indeed, if the voltage level of the power supply to the control circuit (including the timer of Matsko et al.) does not rise to above the second predetermined voltage defined by the zener diode (element ZD5 in Fig. 1) and voltage divider (elements R10, R13 and R6, since the resistor R7 is shorted by the output of comparator CO3 in Fig. 1) during the predetermined period defined by the charging time of capacitors (C1 – C3 through resistors R1 – R3), the timer relay remains turned off. A motivation for modification of the primary reference is the same as above.

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant Admitted Prior Art (AAPA) in view of Matsko et al. and Solomon (US 5,053,978). As was stated above, AAPA and Matsko et al. disclose all the elements of Claim 1. However, regarding Claim 2, they do not disclose the stop-reset switch connected in parallel to the timer relay. Solomon discloses the stop-reset switch (element 102 in Fig. 6) and the timer relay (element 96 in Fig. 6) connected in parallel; the stop-reset switch position determines whether the timer relay will be active or not (col. 8, lines 15 – 43). Both references have the same problem solving area, namely providing

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activation and resetting of the process controlling system. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have further modified the AAPA solution by adding the bypass switch to the time delay relay according to Solomon, because as Solomon states (col. 8, lines 15 – 21), the bypass switch is necessary is to be used when the computer is to be enabled to reset itself in accordance with a preprogrammed event, for example, if certain measurements are out of range, the computer can be programmed to perform the system reset without delay.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Zeev Kitov whose current telephone number is (571) 272 - 2052. The examiner can normally be reached on 8:00 – 4:30. If attempts to reach examiner by telephone are unsuccessful, the examiner's supervisor, Brian Sircus can be reached on (571) 272 – 2800, Ext. 36. The fax phone number for organization where this application or proceedings is assigned is (703) 872-9306 for all communications.

Z.K.
02/13/2005



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